

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claims 1-20 are now pending.

Original claims 1-4 and 7-10 were rejected under 35 USC 103(a) as being unpatentable over Koyanagi et al or Reiter in view of Otto, Matsushima, Tongyai, or Faigen. Applicant respectfully traverses this rejection.

As noted by the Examiner, Koyanagi and Reiter disclose two injection valve structures but neither teaches a lubricating material on at least one of an outer peripheral surface of the adjustment pipe and/or the inner peripheral surface of the cylindrical housing. In fact, neither Koyanagi nor Reiter disclose or suggest any problem or difficulty relating to the insertion or setting of the adjustment pipe.

Recognizing the deficiencies of the primary references, the Examiner noted that the four secondary references disclose the formation of an oxalate film or coating and therefore it "would have been obvious" to provide a lubricating material such as oxalate film or coating on the pipe or tube of Koyanagi or Reiter. Applicant respectfully but strongly disagrees with the Examiner summary conclusions as to the alleged obviousness of the invention in view of the secondary references.

Firstly, contrary to the Examiner's characterization of the secondary references, these references do not teach or suggest coating pipes or tubes with oxalate film or a coating. Indeed, a review of these references has revealed no mention of coating pipes or tubes. If the Examiner disagrees, it is respectfully requested that the Examiner cite relevant passages in this regard.

Secondly, none of the secondary references the Examiner has cited provide any teaching or suggestion whatsoever of any use or advantage to providing an oxalate film

or a coating between coaxially disposed, adjustable members of the type taught by the primary references. On the contrary, the references cited by the Examiner teach the oxalate coating solely for the purpose of facilitating a cold mechanical deformation of stainless steel. Thus, for example, as mentioned in column 1, lines 36-39, Otto discloses that his invention relates to a chemically produced coating "suited as an aid to drawing or other deforming operations". Matsushima discloses a "coating method for stainless steel suitable for cold-working thereof". Tongyai, column 1, line 40-43 discloses "an oxalate coating...which acts as a lubricant and a lubricant carrier during metal deformation operations" and Faigen discloses coatings that facilitate the "cold mechanical deformation of stainless steels" (abstract). Thus, the four secondary references cited by the Examiner teach only the provision of and advantages of an oxalate coating in respect to metal deformation (cold forming) operations. None of these four references provide any teaching or motivation whatsoever for providing a lubricous material, such as an oxalate film or other lubricant, on a peripheral surface of an adjustment pipe or a cylindrical housing in a spring biased valve assembly.

Section 103 does not allow the Examiner to engage in picking and choosing from the prior art only to the extent that it will support a holding of obviousness, while excluding parts of the prior art essential to the full appreciation of what the prior art suggests to one of ordinary skill in the art. In re Wesslau, 147 USPQ 391 (CCPA 1975).

It is clear that the initial burden of establishing a basis for denying patentability to a claimed invention rests upon the Examiner. In re Piasecki, 745 F. 2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the Examiner to provide a reason why one of ordinary skill in the art would have been led to arrive at the claimed invention from the prior art. Ex parte Clapp, 227 USPQ 972 (BPAI 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and

not from applicant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp. 837 F.2d 1044, 7 USPQ 2d 1434 (Fed. Cir. 1988).

It is respectfully submitted that in the absence of a motivation to provide a lubricous material, whether an oxalate coating or some other lubricous material, in the structure of the primary references, it is improper for the Examiner to unilaterally suggest that it would be "obvious" to provide an oxalate coating as disclosed in the secondary references in either Koyanagi or Reiter. Indeed, the teachings of the secondary references are limited to cold forming applications. The secondary references do not teach or suggest the provision of a lubricating material on an outer peripheral surface of an adjustment pipe of a spring biased valve member as claimed. Thus, the only motivation for providing a lubricous material in the combination claimed in claim 1 is applicant's own disclosure. .

Even further, with regard to, e.g., claim 12, it is respectfully submitted that the secondary references only teach the provision of an oxalate coating on stainless steel to facilitate cold mechanical deformation of the stainless steel. Claim 12, however, includes the step "forming a lubricous material on an outer surface of the adjustment pipe and/or the inner surface of the cylindrical housing". Thus, the claimed method forms the lubricating material on the [already] formed pipe or housing. As the secondary references all refer to facilitating cold mechanical formation/metal deformation operations, none of the secondary references teach or suggest forming a lubricating material on an already formed component and thus do not teach or suggest the modification of Koyanagi or Reiter to meet the limitations of applicant's claims.

For all the reasons advanced above, the Examiner's proposed prior art combination is improper under 35 USC 103 as the requisite motivation for modifying the primary reference(s) in view of the secondary references is lacking in the prior art of record. Moreover, with respect to claim 12, the recited method is in any event not taught by the secondary references.

In view of the foregoing, reconsideration and withdrawal of the Examiner's rejection of claims 1-4 and 7-10 is respectfully requested.

It is further respectfully submitted that new claims 16-20 are patentable over the applied art. In this regard, it is respectfully noted that new claims 16-20 provide that an oxalate film is provided on all peripheries of the adjustment pipe, including the inner peripheral surface and the outer peripheral surface, as shown by way of example in Figure 2 of this application. Therefore, the oxalate film can be readily and simply formed by immersing the already formed adjustment pipe in an oxalic acid. Furthermore, even when, e.g., a test oil flows through the fuel passage defined by the inner peripheral surface of the adjusting pipe, the oxalate film is not dissolved. Therefore, a dimensional accuracy of the valve can be improved while the valve can be readily assembled. The documents cited by the Examiner not only fail to motivate the skilled artisan to modify the primary references but, contrary to the Examiner's statement, do not teach or suggest a coating [already formed] steel pipes or tubes and do not teach providing an oxalate film on all peripheries of an adjustment pipe, much less one used for a fuel injection valve.

Claim 5 was rejected under 35 USC 103(a) as being unpatentable over Koyanagi or Reiter in view of Otto, Matsushima, Tongyai, or Faigen and further in view of Soma et al or Maier et al. Applicant respectfully traverses this rejection. Claim 5 is submitted to be patentable over the primary combination for the reasons advanced above. Indeed, the secondary references do not teach or suggest nor in any way motivate the skilled artisan to provide a lubricant material as recited in applicant's independent claims. The references to Soma and Maier do not overcome the deficiencies of the primary combination in this regard.

It is further noted that the Examiner has relied upon the tertiary references as allegedly suggesting that the adjustment pipe of the primary references could be made of stainless steel as required by claim 5. But even if the adjustment pipe of the primary

references were made of stainless steel, the secondary references still fail to teach or suggest providing a lubricant material on component(s) of a spring biased valve, as recited in applicant's independent claims. The Examiner further notes that Soma "teaches synthetic resin which has lubricant type properties". In this respect, however, Soma et al actually teaches away from the Examiner's suggested primary combination, and still fails to teach or suggest the claimed invention. Indeed, if the adjustment pipe were formed of a synthetic resin as allegedly taught by Soma, then an oxalate film or coating as taught by the secondary references would certainly not be provided. Moreover, if the adjustment pipe were made from synthetic resin, the claimed invention would not be anticipated nor obvious because forming the adjustment pipe from synthetic resin would not teach or suggest forming a lubricating material on an outer surface of the adjustment pipe or on the inner surface of the cylindrical housing as recited in claim 12, a lubricating material on the outer peripheral surface of the adjustment pipe as recited in claim 8, or a lubricating material on the outer peripheral surface of the pipe and/or the inner peripheral surface of the cylindrical housing as recited in claim 1. Indeed, Soma does not teach or suggest a surface provided lubricating material but teaches only a synthetic resin adjustment pipe itself.

Thus, to the extent Soma teaches a synthetic resin adjustment pipe, Soma teaches away from the Examiner's suggested primary combination.

It is respectfully submitted that the tertiary reference to Maier also teaches away from the claimed invention. In this respect, Maier et al teaches forming an adjusting bush from copper alloy to prevent seizing between the material of the core and the material of the adjusting bush, so that Maier teaches selecting the alloy from which the adjustment bush is formed and does not teach or suggest the provision of a lubricous material as specifically claimed by applicant.

Thus, for the reasons stated, the secondary references do not motivate the skilled artisan to modify the primary references, and the tertiary references teach away

from following the teachings of the secondary references and also fail to teach or suggest the claimed invention. It is therefore respectfully submitted that claim 5 is also allowable over the applied art.

Claims 6 and 11 were rejected under 35 USC 103(a) as unpatentable over the combination of Koyanagi or Reiter in view of Otto, Matsushima, Tongyai, or Faigen and further in view of Kawaguchi. Claims 6 and 11 are submitted to be allowable over the primary combination for the reasons advanced above. Indeed, it is improper under 35 USC 103 to modify the primary references in view of the secondary references because the prior art of record lacks the motivation to apply to teachings of the secondary references to the primary references. It is further respectfully submitted that it would be unobvious without the benefit of applicant's disclosure to further modify the primary references in view of Kawaguchi. Indeed, Kawaguchi teaches a chemical etching process. Kawaguchi teaches that his surface treatment method is for roughing the surface to prevent "halation" and "glaring" and that it provides an excellent adhesiveness for an organic polymer material. However, neither Kawaguchi nor the remaining art of record provide any teaching or suggestion whatsoever of any use or advantage for the Kawaguchi process in the primary references whether or not combined with the secondary references. Indeed, there is no apparent need in the primary references to prevent "halation" or "glaring" nor a need to provide an adhesiveness for an organic polymer material layer. It seems the only motivation for using the Kawaguchi surface treatment in the primary references is the Examiner's knowledge of the claimed invention and not a teaching or suggestion fairly gleaned from the applied art. Moreover, even if a surface roughening treatment as taught in Kawaguchi were used, the feature in claims 6 and 11 of a lubricating oil adhered to the roughened surface would still not be taught or suggested by any of the applied art. It is therefore respectfully submitted that the Examiner has not properly identified any motivation to combine the cited art and the combined art would not in any event meet the limitations of applicant's claims.

Claims 12-15 were rejected under 35 USC 103 as unpatentable over the combination of Koyanagi or Reiter in view of Otto, Matsushima, Tongyai, or Faigen and further in view of Kummer or Japanese Patent No. 2000-10463. Applicant respectfully traverses this rejection. These claims are submitted to be allowable over the primary combination for the reasons advanced above. Not only is there no motivation for modifying the primary references in view of the secondary references, but the secondary references themselves teach away from the claimed invention because the purpose of the oxalate coating taught by the secondary references is to facilitate metal deformation operations whereas claim 12 refers to the formation of a lubricating material on the surface of a [formed] adjustment pipe or the surface of a [formed] cylindrical housing as a part of an assembly process.

It is further respectfully submitted that the Examiner's proposed prior art combination does not anticipate nor in any way suggest claim 15 which is specifically limited to providing a plurality of fine recesses on the outer surface of the adjustment pipe or the inner surface of the cylindrical housing and adhering a lubricating material thereto. The prior art combined above the Examiner does not teach or suggest the formation of fine recesses as recited in claim 15 so that even if a test unit as allegedly taught by Kummer or JP '463 were used for adjusting the valve of Koyanagi or Reiter, the claimed invention would still not be anticipated nor obvious

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

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Respectfully submitted,

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